

CLAIMS

1. A filter device that suppresses electromagnetic interference generated in an alternating current circuit connected to a power converter with an alternating
5 current output, the filter device comprising:

a common mode choke connected between alternating current output terminals of the power converter and input terminals of the alternating current circuit; and

10 connecting means that connects an outgoing line from a neutral point of the alternating current circuit to a reference potential point having little potential variation at a power source system side of the power converter.

15 2. The filter device according to claim 1, wherein the connecting means includes a capacitor and a resistor connected in series.

20 3. The filter device according to claim 1, wherein the reference potential point is the neutral point at the power source system side of the power converter.

25 4. The filter device according to claim 1, wherein the power converter is an inverter, and the reference potential point is any one of a plus potential point, a minus potential point, and the neutral point at a direct current input side of the inverter.

30 5. A filter device that suppresses electromagnetic interference generated in an alternating current circuit connected to a power converter with an alternating current input and an alternating current output, the filter device comprising:

a common mode choke connected to an alternating current input terminal side of the power converter; and

35 connecting means that connects an outgoing line from the neutral point of the alternating current circuit to a reference potential point having little

potential variation at a power source system side of the common mode choke.

5 6. The filter device according to claim 5, wherein the connecting means includes a capacitor and a resistor connected in series.

7. The filter device according to claim 5, wherein the reference potential point is the neutral point at the power source system side of the common mode choke.

10 8. A filter device that suppresses electromagnetic interference generated in an alternating current circuit connected to a power converter with a direct current input and an alternating current output, the filter device comprising:

15 a common mode choke connected to a direct current input terminal side of the power converter; and

 connecting means that connects an outgoing line from the neutral point of the alternating current circuit to a reference potential point having little potential variation at a direct current power source side of the common mode choke.

20 9. The filter device according to claim 8, wherein the connecting means includes a capacitor and a resistor connected in series.

25 10. The filter device according to claim 8, wherein the reference potential point is any one of a plus potential point, a minus potential point, and the neutral point at a direct current input side of the power converter.

30 11. A filter device that suppresses electromagnetic interference generated in an alternating current circuit connected to a power converter system including a first power converter with an alternating current input and a direct current output and a second power converter with a direct current input and an alternating current output, the filter device comprising:

35 a common mode choke connected to between direct current output terminals of the first power

converter and direct current input terminals of the second power converter connected to the alternating current circuit; and

5 connecting means that connects an outgoing line from a neutral point of the alternating current circuit to a reference potential point having little potential variation at an alternating current input terminal side or a direct current input terminal side of the first power converter.

10 12. The filter device according to claim 11, wherein the connecting means includes a capacitor and a resistor connected in series.

15 13. The filter device according to claim 11, wherein the reference potential point is the neutral point at a power source system side of the first power converter.

20 14. A filter device that suppresses electromagnetic interference generated in an alternating current circuit connected to a power converter with an alternating current output, the filter device comprising:

 a common mode choke disposed at any one of an input side, an output side, and a direct current link of the power converter; and

25 connecting means that connects an outgoing line from the neutral point of the alternating current circuit to a reference potential point present at an upstream of the common mode choke.

30 15. The filter device according to claim 14, wherein the connecting means includes a capacitor and a resistor connected in series.

 16. The filter device according to claim 14, wherein the reference potential point is a point having little voltage variation.